



IBM z Systems Development and Test Environment V10 delivers more flexible licensing and updated middleware

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At a glance

IBM z Systems™ Development and Test Environment (formerly known as IBM^(R) Rational^(R) Development and Test Environment for z Systems™) provides a personal or team-based, emulated IBM z Systems architecture environment for development teams to implement and test their code changes in an isolated and controllable setting.

z Systems Development and Test Environment emulates z Systems hardware on x86 processor-compatible platforms to add more capacity for development and test activities. Version 10 delivers:

- More flexible, software-based licensing for enterprise clients
- More current z/OS^(R) software levels, which includes z/OS V2.2

Overview

z Systems Development and Test Environment is a z Systems development and test platform that runs on an x86 desktop or server.

z Systems Development and Test Environment delivers the following capabilities:

- Allows mainframe operating systems, middleware, and other software to run on Intel™ and Intel-compatible platforms. This removes the requirement of having z Systems hardware for the initial phases of development activities.
- Can be used for development and test of new application function and also application maintenance.
- Can be used for:
 - The investigation and verification of new middleware levels (version-to-version upgrades)
 - Prototyping new application architectures
 - Demonstration of application function
 - Internal employee education

z Systems Development and Test Environment V10 offers flexible licensing options to meet the needs of both enterprise users who share an environment and individual users who may require portability. Specifically, software-based licensing technology now enables operation of z Systems Development and Test Environment for

enterprise software teams that acquire the Resource Value Unit (RVU) licensing metric. The USB hardware device is still required for operation by individual users licensed through the Authorized User Single Install metric.

To ease adoption of newer levels of z/OS software, this release also includes a z/OS V2.2 software distribution that contains updated and additional z/OS software, for example z/OS Connect Enterprise Edition V2.0 and IBM Explorer for z/OS Aqua V3.0.

z Systems Development and Test Environment can be used only for development, testing, employee education, or demonstration of applications that run on z/OS. It cannot be used for production workloads of any kind or for robust development workloads, such as, without limitation, production module builds, preproduction testing, stress testing, or performance testing.

Key prerequisites

Supports Linux™ operating system.

For details, refer to the [Hardware requirements](#) and the [Software requirements](#) sections.

Planned availability date

November 17, 2016

Description

z Systems Development and Test Environment offering provides a small-scale development and test platform for developers, testers, and operations personnel who are responsible for applications that run on z/OS and z/OS middleware. z Systems Development and Test Environment runs on an Intel or Intel-compatible (x86) PC or server, which helps eliminate the cost differentials that exist between distributed and existing mainframe development environments. Running a small-scale, z Systems development environment on a PC allows a more portable, flexible, and potentially lower-cost environment for development teams.

z Systems Development and Test Environment may be used for development and test of new application function and also maintenance changes. Additionally, z Systems Development and Test Environment can be used for:

- Investigation and verification of new middleware levels (version-to-version upgrades)
- Prototyping new application architectures
- Demonstration of application function
- Internal employee education and training

z Systems Development and Test Environment can be used with IBM or third-party Independent Software Vendor (ISV) tools to support development and test activities that include:

- Source code or binary editors
- Integrated development environments (IDE)
- Development-level source code compile and build systems
- Analysis and problem determination tools
- Data import, export, inspection, and alteration utilities
- Middleware or application setup and configuration tools

z Systems Development and Test Environment is not licensed for use with production management tools or performance testing tools that include:

- Production-level, source code management (SCM) repositories or libraries
- Production-level, build-and-deploy systems
- Performance tuning tools

Any usage of third-party ISV tools must be arranged through the ISV directly, not through IBM. Usage must comply with the license terms as provided by the ISV and IBM at all times. For clarification on licensing or use cases, contact your IBM representative.

z Systems Development and Test Environment provides a more modern, agile development platform to help accelerate delivery of new workloads spanning multiple runtimes. It can be assigned to a single user, or can support small-scale team environment on a server platform. These environments can be tailored to a single developer or a team's needs without impacting existing mainframe testing environments.

z Systems Development and Test Environment can provide a greater level of control for developers and testers to implement quick environment changes, such as defining new transactions and resource definitions. These changes can be achieved without having to involve production operations staff to set up these configurations on the mainframe.

Developers also have easier access to recent versions of the IBM middleware that come with z Systems Development and Test Environment, without having to wait for system upgrades on the mainframe. Developers can explore new CICS[®] or IMS[™] features, investigate new architectural models, and perform their first series of tests as well as component regression testing. Developers can build and test z Systems applications anytime on their PC, without impacting the production operations of an organization.

z Systems Development and Test Environment V10 offers more flexible licensing options, with three purchasing options:

- z Systems Development and Test Environment is intended for enterprise teams and is licensed in terms of the highest number of activated emulated Central Processors (CPs) through the Resource Value Unit (RVU) license metric. This metric accommodates the dynamic nature of the software development lifecycle, enabling movement of users and activation of Development and Test Environments as needed to support maintenance, development and test activities.

With Version 10, z Systems Development and Test Environment is activated through software-based licensing to better meet the needs of enterprise users who may have data center requirements and plans for cloud deployment that are hindered by hardware-based licensing.

In addition, the maximum number of emulated CPs per Development and Test Environment instance is increased from three to eight, which is consistent with the architecture of z Personal Development Tool. Clients should plan on testing with their specific workload to determine the optimum number of CPs per instance. In general, three to four CPs per instance is recommended; the advantages of more CPs might be marginal, depending on the nature of the workload.

- z Systems Development and Test Environment with Parallel Sysplex[®] includes the base environment for development, test, employee education, or demonstration of applications that run on z/OS, and also IBM z[™] Personal Development Tool support for virtual Coupling Facility. The z/VM[®] software distribution enables virtual coupling of z/OS guests under z/VM. This offering is targeted for enterprise teams. RVU licenses are offered, and in Version 10, the product is activated by software-based licensing.

The maximum number of z System emulated Central Processors per z Systems Development and Test Environment with Parallel Sysplex instance is eight.

Note that z Systems Development and Test Environment with Parallel Sysplex offering is intended for clients who already have Parallel Sysplex applications deployed. Installation and configuration of z/VM is required to deploy z/OS in a parallel sysplex configuration. z/OS in a parallel sysplex configuration may only be run as guest operating systems under z/VM and usage of z/VM is restricted to operations required to facilitate use of the z Personal Development Tool in a parallel sysplex configuration that includes z/OS guests under z/VM and one or more virtual Coupling Facility. The Parallel Sysplex offering is sold through the IBM special bid process. For ordering, contact your IBM representative, or an IBM Business Partner.

- z Systems Development and Test Environment Personal Edition is intended for individual users and users who require portability. It is licensed through the Authorized User Single Install metric and is activated with a USB hardware device, which is orderable through a physical media pack. Each organization that purchases z Systems Development and Test Environment Personal Edition will need to procure and activate at least one USB hardware device from IBM. Clients can order the USB hardware device as soon as they become entitled to z Systems Development and Test Environment Personal Edition, or they can ask a representative to add the appropriate media part number to their z Systems Development and Test Environment Personal Edition license order.

Each instance of z Systems Development and Test Environment Personal Edition is allocated three z System emulated CPs.

z Systems Development and Test Environment V10 comes packaged with an updated and preconfigured set of IBM z/OS software for development usage. This software includes:

- z/OS V2.2, which includes subfeatures
- WebSphere^(R) Application Server for z/OS, V8.0 and V8.5
- CICS Transaction Server (CICS TS) V5.1, V5.2, and V5.3
- IMS V13.1 and V14.1
- DB2^(R) for z/OS, V10.1 and V11.1
- WebSphere MQ for z/OS, V8.0
- IBM JavaTM SDK for z/OS, V7.1 and V8.0
- Enterprise COBOL V5.2
- Enterprise PL/I V4.5
- Rational COBOL Runtime V6.0.1 (EGL)
- IBM Debug Tool V13.1

The included IBM software products are provided for development purposes only on an as-is basis. No technical support or APAR/PTF deliverables are provided for the included software as listed in the Supporting Programs section of the product license with the clients' purchase of the z Systems Development and Test Environment.

z Systems Development and Test Environment for z System also includes the z/OS components of additional IBM DevOps for the Enterprise products to aid in performing integrated software delivery scenarios with z Systems Development and Test Environment. These components include:

- Rational Developer for z Systems, V9.5.1 z/OS components for easy integration of z Systems Development and Test Environment with Rational Developer for z Systems to enable off host edit, compile, and debug. Note that use of these components requires purchase of licenses of Rational Developer for z Systems or IBM Developer for z Systems.
- Rational Team ConcertTM V6.0.1 z/OS components, for easy integration of z Systems Development and Test Environment with Rational Team Concert to

enable off-host preproduction builds. Note that use of these components requires purchase of appropriate Rational Team Concert licenses.

- IBM UrbanCode™ Deploy Agent for z/OS Workloads V6.2, for easy deployment of z/OS applications onto z Systems Development and Test Environment for development and test activities.

Other z Systems Development and Test Environment enhancements include packaging of the Rational Integration Tester V9.0.1 components that are required to enable virtualization of CICS, IMS, and DB/2 invocations on z Systems Development and Test Environment. Note that use of these components requires purchase of appropriate Rational Integration Tester licenses.

Increased application quality

z Systems Development and Test Environment provides an environment that is functionally comparable to what is available on the mainframe. By using the actual z/OS operating system and middleware, less retesting and rework may be required when moving applications from z Systems Development and Test Environment to the quality assurance or preproduction environment on the mainframe. Developers can have an isolated test environment to test application changes that can then be easily merged into the next level of testing.

It should be noted that z Systems Development and Test Environment is not intended as a replacement for a mainframe. The final testing of software must be done in an environment as close as possible to that which would run in production. This requires an environment that can only be satisfied with the capabilities delivered by z Systems hardware.

Potentially decreased cost

The z Systems Development and Test Environment executes on an x86 PC, which may reduce development MIPS on the production mainframe for functional application testing. The development MIPS may be reallocated to other production or testing needs, thus freeing additional capacity for new workloads while reducing line-of-business, development costs, and chargeback.

z Systems Development and Test Environment, V10 license information

The following text is taken from the z Systems Development and Test Environment license agreement document that is included with clients' purchase. It is included here for convenience and understanding of the terms and conditions around the use of the program. This text is not inclusive.

Program-unique terms

Licensee may use the program only for development, testing, employee education, or demonstration of Licensee's applications that run on z/OS. Licensee cannot use the program for production workloads of any kind or for robust development workloads, such as, without limitation, production module builds, preproduction testing, stress testing, or performance testing.

When determining the number of entitlements required for Licensee's installation or use of the program, Licensee is allowed to define up to two log-in identifiers for use by system programmers (for example, system administrators or database administrators) to support Licensee development and test activities, which are not used to determine the number of entitlements required for the program.

Supporting program details

- All supporting programs
 - Support: Nonsupported¹
- File Manager for z/OS
 - Use Limitations: Evaluation²
- Fault Analyzer for z/OS

- Use Limitations: Evaluation

¹ "Nonsupported" means the Supporting Programs are provided without obligation of support and "AS IS", WITH NO WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE WARRANTY OF TITLE, NON-INFRINGEMENT OR NON-INTERFERENCE AND THE IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

² "Evaluation" means that Licensee may use the Supporting Program for evaluation purposes only and not for use in a production environment.

Accessibility by people with disabilities

A US Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be found on the [IBM Accessibility](#) website.

Program number

Program number	VRM	Program name
5725-G39	10.0.0	IBM z Systems Development and Test Environment

Offering Information

Product information is available on the [IBM Offering Information](#) website.

More information is also available on the [Passport Advantage^{\(R\)}](#) and [Passport Advantage Express^{\(R\)}](#) website.

Publications

Technical documentation can be found in [IBM Knowledge Center](#).

Services

Software Services

IBM Software Services has the breadth, depth, and reach to manage your services needs. You can leverage the deep technical skills of our lab-based, software services team and the business consulting, project management, and infrastructure expertise of our IBM Global Services team. Also, we extend our IBM Software Services reach through IBM Business Partners to provide an extensive portfolio of capabilities. Together, we provide the global reach, intellectual capital, industry insight, and technology leadership to support a wide range of critical business needs.

To learn more about IBM Software Services contact your Lab Services Sales or Delivery Leader.

Technical information

Specified operating environment

Hardware requirements

Disk space: 50 GB of disk space is required. 150 GB of disk space is required for packaged z/OS V2.2 distribution.

Memory: 2 GB of RAM per emulated CP plus 1 GB for Linux. 3 GB of RAM required.

Processor: Minimum processor rating: 2.0 GHz, or higher; Intel Core 2 Duo, Generation 1 Intel i3, or equivalent processor required.

Other hardware:

- The License Key Server must be hosted on 64-bit x86 Intel or compatible hardware.
- For z Systems Development and Test Environment Personal Edition:
 - The hardware must include one or more USB ports.
 - The License Key Server may not be hosted on zBX hardware.
 - The product's USB Hardware Device must be attached to an available USB port.
 - The hardware must be configured to give the License Key Server exclusive use of the USB port where the product's USB Hardware Device is attached.

Software requirements

Linux

- Red Hat Enterprise Linux (RHEL) Server 6 x86-64
- Red Hat Enterprise Linux (RHEL) Server 7 x86-64

The program's specifications and specified operating environment information may be found in documentation accompanying the program, if available, such as a readme file, or other information published by IBM, such as an announcement letter. Documentation and other program content may be supplied only in the English language.

Planning information

Packaging

IBM z Systems Development and Test Environment

This program, when downloaded from a website, contains the applicable IBM license agreement and License Information, if appropriate, and will be presented for acceptance at the time of installation of the program. For future reference, the license and License Information will be stored in a directory such as LICENSE.TXT.

Ordering information

Product: IBM z Systems Development and Test Environment (5725-G39)

Passport Advantage

Part description	Part number
IBM z Systems Development and Test Environment Personal Edition Hardware Key 10.0 Media Pack	BT0P6ML
IBM z Systems Development and Test Environment RVU for z SYS INITL FT LIC +S&S 12 Mo	D1QLALL
IBM z Systems Development and Test Environment RVU for z SYS MONTHLY LICENSE	D1QLBLL
IBM z Systems Development and Test Environment RVU for z SYS LIC + SW S&S 12 Mo	D1QLCLL

Part description	Part number
IBM z Systems Development and Test Environment RVU for z SYS SW S&S REINSTATE 12 Mo	D1QLDLL
IBM z Systems Development and Test Environment RVU for z SYS TRADEUP FROM RDZ UT DESKTOP TRDUP LIC + SW S&S 12 Mo	D1QLELL
IBM z Systems Development and Test Environment RVU for z SYS TRADEUP FROM AUSI TRDUP LIC + SW S&S 12 Mo	D1QLFLL
IBM z Systems Development and Test Environment RVU for z SYS TRADEUP FROM COMPETITOR TRDUP LIC + SW S&S 12 Mo	D1QLGLL
IBM z Systems Development and Test Environment RVU for z SYS SUBSQ FT LIC +S&S 12 Mo	E0N4ELL
IBM z Systems Development and Test Environment RVU for z SYS ANNUAL SW S&S RNWL	E0N4FLL

Charge metric

Program name	PID number	Charge metric
IBM z Systems Development and Test Environment Personal Edition	5725-G39	Authorized User Single Install
IBM z Systems Development and Test Environment	5725-G39	Resource Value Unit

Authorized User Single Install

Authorized User Single Install is a unit of measure by which the Program may be licensed. An Authorized User is a unique person who is given access to the Program. An Install is an installed copy of the Program on a physical or virtual disk made available to be executed on a computer. The Program may be installed on any number of computers or servers, but if the Authorized User has accessed or has access to more than one Install of the Program, the Authorized User requires a separate entitlement for each such Install. Licensee must obtain separate, dedicated entitlements for each Authorized User given access to the Program on each Install in any manner directly or indirectly (for example, through a multiplexing program, device, or application server) through any means. An entitlement for an Authorized User is unique to that Authorized User and may not be shared, nor may it be reassigned other than for the permanent transfer of the Authorized User entitlement to another person.

Note: *Some programs may be licensed where devices are considered users. In that case, the following applies. Any computing device that requests the execution of or receives for execution a set of commands, procedures, or applications from the Program or that is otherwise managed by the Program is considered a separate User of the Program and requires an entitlement as if that device were a person.*

Resource Value Unit (RVU)

Resource Value Unit (RVU) is a unit of measure by which the Program can be licensed. RVU Proofs of Entitlement are based on the number of units of a specific resource used or managed by the Program. Licensee must obtain sufficient entitlements for the number of RVUs required for Licensee's environment for the specific resources as specified in the table below. RVU entitlements are specific to the Program and the type of resource and may not be exchanged, interchanged, or aggregated with RVU entitlements of another program or resource.

General Charge Terms

The Resource for the purpose of RVU calculation is an Activated Emulated Central Processor. An Emulated Central Processor is a functional unit within an emulated z Systems architecture environment that interprets and processes program instructions. Licensee must obtain sufficient entitlements to cover the highest number of Emulated Central Processors activated and made available for use by the program.

- From 1 to 2500 Resources, 1.0 RVU per Resource
- From 2,501 to 10,000 Resources, 2,500 RVUs plus 0.9 RVUs per Resource above 2,500
- From 10,001 to 25,000 Resources, 9,250 RVUs plus 0.8 RVUs per Resource above 10,000
- From 25,001 to 50,000 Resources, 21,250 RVUs plus 0.7 RVUs per Resource above 25,000
- For more than 50,001 Resources, 38,750 RVUs plus 0.5 RVUs per Resource above 50,000

Note: Specific user table can be found on [IBM Value Unit Exhibits for Passport Advantage Software](#).

Terms and conditions

The information provided in this announcement letter is for reference and convenience purposes only. The terms and conditions that govern any transaction with IBM are contained in the applicable contract documents such as the IBM International Program License Agreement, IBM International Passport Advantage Agreement, and the IBM Agreement for Acquisition of Software Maintenance.

Licensing

IBM International Program License Agreement including the License Information document and Proof of Entitlement (PoE) govern your use of the program. PoEs are required for all authorized use. Part number products only, offered outside of Passport Advantage, where applicable, are license only and do not include Software Maintenance.

Agreement for Acquisition of Software Maintenance

These programs are licensed under the IBM Program License Agreement (IPLA) and the associated Agreement for Acquisition of Software Maintenance, which provide for support with ongoing access to releases and versions of the program. IBM includes one year of Software Subscription and Support (also referred to as Software Maintenance) with the initial license acquisition of each program acquired. The initial period of Software Subscription and Support (also referred to as Software Maintenance) can be extended by the purchase of a renewal option, if available. These programs have a one-time license charge for use of the program and an annual renewable charge for the enhanced support that includes telephone assistance (voice support for defects during normal business hours), as well as access to updates, releases, and versions of the program as long as support is in effect.

License Information number

Description	LI number
IBM z Systems Development and Test Environment	L-SCHK-ADBMNZ
IBM z Systems Development and Test Environment with Parallel Sysplex ^(R)	L-SCHK-ADBMW2
IBM z Systems Development and Test Environment Personal Edition	L-SCHK-ADBN3F

See the [License Information documents](#) page on the IBM Software License Agreement website for more information.

Limited warranty applies

Yes

Limited warranty

IBM warrants that when the program is used in the specified operating environment, it will conform to its specifications. The warranty applies only to the unmodified portion of the program. IBM does not warrant uninterrupted or error-free operation of the program or that IBM will correct all program defects. You are responsible for the results obtained from the use of the program.

IBM provides you with access to IBM databases containing information on known program defects, defect corrections, restrictions, and bypasses at no additional charge. For further information, see the [IBM Software Support Handbook](#).

IBM will maintain this information for at least one year after the original licensee acquires the program (warranty period).

Money-back guarantee

If for any reason you are dissatisfied with the program and you are the original licensee, you may obtain a refund of the amount you paid for it, if within 30 days of your invoice date you return the program and its PoE to the party from whom you obtained it. If you downloaded the program, you may contact the party from whom you acquired it for instructions on how to obtain the refund.

For clarification, note that (1) for programs acquired under the IBM International Passport Advantage offering, this term applies only to your first acquisition of the program and (2) for programs acquired under any of IBM's On/Off Capacity on Demand (On/Off CoD) software offerings, this term does not apply since these offerings apply to programs already acquired and in use by you.

Volume orders (IVO)

No

Passport Advantage applies

Yes, information is available on the [Passport Advantage and Passport Advantage Express](#) website.

Software Subscription and Support applies

Yes. Software Subscription and Support, also referred to as Software Maintenance, is included with licenses purchased through Passport Advantage and Passport Advantage Express. Product upgrades and Technical Support are provided by the Software Subscription and Support offering as described in the Agreements. Product upgrades provide the latest versions and releases to entitled software, and Technical Support provides voice and electronic access to IBM support organizations, worldwide.

IBM includes one year of Software Subscription and Support with each program license acquired. The initial period of Software Subscription and Support can be extended by the purchase of a renewal option, if available.

While your Software Subscription and Support is in effect, IBM provides you assistance for your routine, short duration installation and usage (how-to) questions, and code-related questions. IBM provides assistance by telephone and, if available,

electronic access, only to your information systems (IS) technical support personnel during the normal business hours (published prime shift hours) of your IBM support center. (This assistance is not available to your users.) IBM provides Severity 1 assistance 24 hours a day, 7 days a week. For additional details, see the [IBM Software Support Handbook](#). Software Subscription and Support does not include assistance for the design and development of applications, your use of programs in other than their specified operating environment, or failures caused by products for which IBM is not responsible under the applicable agreements.

Unless specified otherwise in a written agreement with you, IBM does not provide support for third party products that were not provided by IBM. Ensure that when contacting IBM for covered support, you follow problem determination and other instructions that IBM provides, including in the [IBM Software Support Handbook](#).

For additional information about the International Passport Advantage Agreement and the IBM International Passport Advantage Express Agreement, go to the [Passport Advantage and Passport Advantage Express](#) website.

System i Software Maintenance applies

No

Variable charges apply

No

Educational allowance available

Not applicable.

Statement of good security practices

IT system security involves protecting systems and information through prevention, detection, and response to improper access from within and outside your enterprise. Improper access can result in information being altered, destroyed, or misappropriated or can result in misuse of your systems to attack others. Without a comprehensive approach to security, no IT system or product should be considered completely secure and no single product or security measure can be completely effective in preventing improper access. IBM systems and products are designed to be part of a lawful, comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products, or services to be most effective.

Important: IBM does not warrant that any systems, products, or services are immune from, or will make your enterprise immune from, the malicious or illegal conduct of any party.

Prices

Business Partner information

If you are an IBM Business Partner -- Distributor for Workstation Software acquiring products from IBM, you may link to Passport Advantage Online for resellers where you can obtain Business Partner pricing information. An IBM ID and password are required to access the [IBM Passport Advantage](#) website.

Passport Advantage

For Passport Advantage information and charges, contact your IBM representative. Additional information is also available on the [Passport Advantage and Passport Advantage Express](#) website.

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